

The claim requirement that the first layer is bonded throughout is supported by page 17 lines 10-17.

The amendment to claim 16 merely corrects the dependency of this claim.

Newly added claims 17-20 and 24-29 are supported by original claims 2-12, respectively.

The limitations of claim 21 are supported by page 16, lines 6-13 of the specification.

Applicants have added claim 22 which indicates that their web has a void volume of at least $53 \text{ cm}^3/\text{gm}$ (this void volume amount was derived from the Examples.) The void volume of a web may be calculated by anyone skilled in the art in a straightforward manner knowing the composition of the web and its physical properties. For example, a 120 gsm web of bicomponent fibers (density 0.91 g/cm^3) would have $131.9 \text{ cm}^3/\text{m}^2$ of total fiber volume. The total web volume can be calculated from the thickness; e.g., a 10 mm thick web has a total volume of $10,000 \text{ cm}^3/\text{m}^2$. Subtracting the total fiber volume from the total web volume yields the void volume in cm^3/m^2 and dividing this number by the web basis weight in gsm yields the void volume on a weight basis in cm^3/gm . Using the fiber composition and other data from the Examples, Applicants calculated a void volume for the Examples 1 – 5 of 38, 31, 92.5, 53.6 and 68.9, respectively. (Applicants' claimed materials are in Examples 3, 4 and 5).

Finally, newly added claim 23 is supported by page 15, lines 15-24 of the specification.

As is noted by the foregoing comments, the foregoing amendments do not introduce new matter and are supported by the specification, as originally filed.

Claims 13 and 14 were rejected under 35 U.S.C. § 103 as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over U.S. Patent Number 4,111,733 to Periers. This rejection is respectfully **traversed** to the extent that it may apply to claims as now amended.

Applicants' claims are directed to laminate having a first layer from a corrugated nonwoven web and a second layer which may be a nonwoven, woven, knit, film, tissue, paper, foil or foam material. The claims require that at least 40% of the surface area of the corrugated nonwoven web is prepared from fusible fibers, that the web is corrugated while unbonded to produce folds and subsequently bonded throughout. Further, the claims require that there are no gaps between the folds.

In rejecting the claims 13 and 14, the Examiner relies upon Periers. In the statement of the rejection, the Examiner states "Periers teaches said web to be composed of 100% fusible fibers" citing column 3, line 63 and col. 8, lines 50-60 of Periers. Applicants are unable to glean from Periers that 100% fusible fibers should be used, based on the passages cited by the Examiner. The Examiner has not explained how Periers teaches a nonwoven web of 100% fusible fibers is or how such a nonwoven web is suggested by Periers.

Line 63 of column 3 is a fragment of a sentence in larger paragraph. The entire paragraph states:

"Before passing through the folding station proper 5, this sheet is first subjected, at 3, to a treatment intended for stiffening the fibres (*sic*) and in itself known; this may for example consist of the pulverizing (*sic*) of a solid binding agent, preceded by the passage of the sheet in front of steam atomizing (*sic*) jets 6, or again the atomization (*sic*) of a liquid binding agent, the folding device according to this invention permitting the treating of wetted materials. In either case, the sheet may pass one or more sets of two transverse rotating rolls 7 and 8 disposed opposite to each other, respectively in contact with the upper face 9 and the lower face 10 of the sheet 1, these rolls may serve only for the driving and flattening of the sheet, but they may also be heated to a temperature such that it causes a complete fixing of the fibres(*sic*), or again a simple temporary pre-fixing adapted to be completed or destroyed by appropriate treatments applied after the folding operation." (*emphasis added*)

Clearly, this paragraph is discussing the heating of rolls 7 and 8 to fix the fibers having bonding agent thereon. If a heat treatment is effected, as suggest in this paragraph, then the resulting nonwoven would be bonded before corrugation. As is noted above, the claims require that the nonwoven web is unbonded when corrugated.

The paragraph at column 8 lines 50-60 states

"In the case of fusible fibres (*sic*) in particular, it is possible to effect the various fixing operations described without the addition of a binding agent, but instead by carrying out a localised(*sic*) fusion of the fibres(*sic*), for example by "singeing" using flame nozzles. Depending upon the particular case, it is thus possible to ensure a fixing of the folds at one face of a folded material not furnished with a support, or at both its faces, or again the fixing of a support such as a fabric onto one or both faces of such a material."

Again, Applicants do not see how this paragraph teaches 100% fusible fibers, as the Examiner has contended. While this paragraph may suggest that fusible fibers may be used in the material to be corrugated, it in no way teaches that 100% of the fibers are fusible. Further, there is no suggestion in this paragraph that teaches one skilled in the art that at least 40% of the surface of the web should be fusible fibers. As is stated in

the specification at page17, lines 14-16, at least 40% of the fibers need to be fusible to result in a corrugated web with sufficient mechanical compression resistance. There is no suggestion in this paragraph to have at least 40% fusible fibers on the surface of the web to be corrugated.

In addition, the paragraph of column 8 relied upon by the Examiner states that the localized fusion of the fibers, for example by "singeing" using flame nozzles. This paragraph states that the fixing of the folds occurs at one face of the material not furnished with a support, or both faces of the material. That is, the material is fixed or bonded at the surface and not throughout the web, as is clearly required by the present claims. Therefore, the claim limitation requiring bonding throughout the web is not taught by Periers.

In order for a claim to be rendered obvious over a reference, the invention as a whole, including all of the limitations of the claims, must be taught or suggested by the reference. In the present rejection, the claim limitations of bonding the web throughout after corrugation, and using at least 40% fusible fibers are not taught by Periers, and the Examiner has not clearly stated how these limitations are suggested by Periers. Therefore, the rejection of the claims based solely on Periers is untenable, and should be withdrawn.

Claims 15 and 16 were rejected under 35 U.S.C. § 103 as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over U.S. Patent Number 4,111,733 to Periers in view of U.S. Patent Number 5,906,879 to Huntoon et al. This rejection is respectfully **traversed** to the extent that it may apply to claims as now amended.

In the statement of this rejection, the Examiner only relies upon Huntoon to teach that corrugated webs may be prepared from superabsorbent fibers and that corrugated webs may have folds of differing heights. The Examiner correctly acknowledges that Periers does not teach these claim limitations.

Even if one skilled in the art were to combine the teachings of Huntoon with Periers as suggested by the Examiner, one skilled in the art would not arrive at the claimed invention. Specifically, the Examiner does not address how the deficiencies of Periers noted above are remedied by Huntoon. The Examiner does not suggest how Huntoon cures the requirement in

the claims that at least 40% of the fibers are fusible fibers, how Huntoon suggest that that the web of Periers should be bonded through out after corrugation. Therefore, Huntoon does not cure the noted deficiencies of Periers.

It is further noted that Huntoon is directed toward providing space between the corrugations into which fluids or feces may be deposited. The space provided is a gap between each of the folds of the corrugated material (see column 6, lines 27-33 and column 6, line 65-column 7, line 4).

One skilled in the art would not be motivated to combine the teachings of Huntoon with Periers and arrive at the present invention. This is especially true in view of the fact that Huntoon teaches the desire to have gaps between the folds, while Periers provides, as the Examiner has asserted, a fabric with no gaps present between the folds. One skilled in the art reading Huntoon would be motivated to have gaps between the folds, especially in personal care products. A second reference can not be combined with a first reference if the second destroys the invention of the first reference. In the combination of Huntoon with Periers, Huntoon destroys the asserted teaching of Periers with respect to having no gaps between the folds. A web formed from the combined teaching of Huntoon and Periers would have gaps between the folds in view of Huntoon's clear teaching which requires gaps between the folds. The teaching of Huntoon would lead one skilled in the art to have gaps between the folds, particularly in personal care applications, such as those in new claims 24-29.


In order for a combination of references to render a claim obvious under the meaning of 35 USC 103, the invention as a whole, including all of the limitations of the claims, must be taught or suggested by the references. In the present rejection, the claim limitations of bonding the web throughout after corrugation, and using at least 40% fusible fibers are not taught by Periers and Huntoon, and the Examiner has not clearly stated how these limitations are suggested by Periers and Huntoon. In addition, the teaching of Huntoon is contrary to the teaching of Periers, with respect to gaps between the folds. Therefore, the rejection of the claims based on the combination of Periers and Huntoon is untenable, and should be withdrawn.

Please charge any prosecutorial fees which are due to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875.

The undersigned may be reached at: 770-587-7204.

Respectfully submitted,

Margaret Gwyn Latimer ET AL.

By: 

Ralph H. Dean, Jr.
Registration No.: 41,550
Attorney for Applicants

CERTIFICATE OF MAILING

I, Ralph H. Dean, Jr., hereby certify that on October 17, 2002 this document is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

By: 

Ralph H. Dean, Jr.

Appendix (Marked-up copy of the Amended Claims)

13. (once amended) A laminate comprising a first layer comprising a corrugated nonwoven web comprising a surface having a surface area, wherein at least 40 percent of said surface area is made from fusible fibers, and wherein said web is unbonded, corrugated to produce folds and subsequently bonded throughout, such that no gaps are present between said folds, and at least one second layer selected from the group consisting of nonwovens, wovens, knits, films, tissues, papers, foils and foams.

16. (once amended) The laminate of claim 4 13 wherein said web comprises superabsorbent fibers.